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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,675	11/03/2000	Adam Louis Buchsbaum	2000-0542	6271

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06/01/2006

EXAMINER
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CHANG, JUNGWON

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/705,675

Applicant(s)

BUCHSBAUM ET AL.

Examiner

Jungwon Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 12/19/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                   |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>see the note</u> . | 6) <input type="checkbox"/> Other: _____                                                |

✓



IDS: 7/28/04, 10/18/04, 1/13/06, 4/3/06, 5/5/06

### **DETAILED ACTION**

1. This action is in response to RCE filed on 12/19/05. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/05 has been entered.

2. Claims 1-20 are presented for examination.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

i. as to claim 1, lines 9-10, it is uncertain whether "the plurality of client IP addresses" refers to "a plurality of IP addresses" in lines 5-6.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6 and 8 of U.S. Patent No.

6,928,485 in view of Murase et al. (US 6,570,866), hereinafter Murase.

The difference between claims 1 and 8 of the present application and claims 1, 6 and 8 of U.S. Patent No. 6,928,485 is that processing the plurality of IP addresses according to a radix encoded trie classification process. Murase discloses processing the plurality of IP addresses according to a radix encoded trie classification process (col. 1 lines 7-35; col. 1, lines 57-62). It would have been obvious to use the radix encoded trie to process IP addresses as taught by Murase, because this would allow for finding the most specific entry matching the IP address such as disclosed by Murase (col. 1, lines 29-35).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 6,529,508), hereinafter Li, in view of Tzeng (US 6,061,712).

9. As to claim 1, Li discloses the invention as claimed, including an on-line method of classifying IP addresses into related clusters within a distributed information network (figs. 7-8; col. 8, lines 5-25, "classifying IP"), the method comprising the steps of:

generating a unified prefix/netmask table from a plurality of network routing table prefix/netmask entries, said unified prefix/netmask entries comprising a plurality of IP addresses (figs. 7-8; col. 8, lines 5-25; col. 12, lines 14-38, "grouping neighborhoods");

processing the plurality of IP addresses according to a *search algorithm* classification process (col. 15, line 58 – col. 16, line 34, "IP address, say b1, b2, b3, b4, where b1, b2, b3 and b4 are each a binary value in the range of 0-255") to determine a common prefix between at least a portion of the plurality of client IP addresses (col. 8, line 52 – col. 9, line 3, "longest prefix matching"; col. 12, lines 14-38; col. 14, lines 41-59); and

grouping IP addresses which share a common prefix into a network client cluster (col. 4, lines 16-24; col. 12, lines 14-38, "grouping neighborhoods").

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10. Li discloses processing the plurality of IP addresses according to a *search algorithm* classification process ("IP address, say b1, b2, b3, b4, where b1, b2, b3 and b4 are each a binary value in the range of 0-255"). However, Li does not specifically disclose a radix encoded trie. Tzeng discloses a radix encoded trie (col. 4, lines 39-55; col. 4, line 66 – col. 5, line 5; col. 5, lines 30-39). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Li and Tzeng because Tzeng's radix encoded trie would supports subnet mask look-up and best matching of IP addresses (Tzeng, col. 3, lines 7-15; col. 5, lines 30-39).

11. As to claim 2, Li discloses wherein the plurality of client IP addresses are received from one or more network routers (fig. 8).

12. As to claim 3, Li discloses wherein the IP addresses are network client IP addresses (fig. 8).

13. As to claim 4, Li discloses wherein the distributed information network is the World Wide Web (col. 1, lines 50-67; col. 7, lines 6-26, "HTTP" is known as the World Wide Web).

14. As to claim 5, it is rejected for the same reasons set forth in claim 1 above.

In addition, Li discloses performing longest prefix matching on each client IP address (col. 8, line 52 – col. 9, line 3, "longest prefix matching"); and classifying all of the client

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IP addresses that have the same longest matched prefix into a client cluster based on a *search algorithm* matching process (col. 4, lines 16-24; col. 8, line 52 – col. 9, line 3; col. 12, lines 14-38, “grouping neighborhoods”).

15. As to claim 6, Li discloses wherein the client IP addresses are extracted in real time from a network server (col. 5, lines 3-42).

16. As to claim 7, Li discloses wherein the distributed information network is the Internet (col. 1, lines 50-67).

17. As to claim 8, it is rejected for the same reasons set forth in claim 1 above. In addition, Li discloses performing longest prefix matching on each client IP address (col. 8, line 52 – col. 9, line 3, “longest prefix matching”).

18. As to claim 9, Li discloses receiving the plurality of IP addresses from one or more servers (col. 5, lines 3-42; i.e., router receives IP addresses from a server).

19. As to claim 10, Li discloses wherein the network servers are at least one of proxy servers, cache servers, content distribution servers and mirror servers (fig. 1; col. 5, lines 3-42).

20. As to claim 11, Li discloses wherein at least one address in said plurality of IP



addresses is a client IP address (fig. 8).

21. As to claim 12, Li discloses wherein at least one address in said plurality of IP addresses is a server IP address (col. 5, lines 3-42; i.e., router receives IP addresses from a server).

22. As to claims 13-16, it is rejected for the same reasons set forth in claim 1 above. In addition, Li discloses the retrie includes a fixed number of retrie levels (col. 15, line 58 – col. 16, line 62).

23. As to claim 17, it is rejected for the same reasons set forth in claim 1 above. In addition, Li discloses a computer-readable medium containing executable instructions which cause a computer (col. 19, lines 55-67) to performing longest prefix matching on each client IP address (col. 8, line 52 – col. 9, line 3, “longest prefix matching”); and classifying all of the client IP addresses that have the same longest matched prefix into a client cluster based on a *search algorithm* matching process (col. 4, lines 16-24; col. 8, line 52 – col. 9, line 3; col. 12, lines 14-38, “grouping neighborhoods”).

24. As to claim 18, Li discloses wherein at least one address in said plurality of IP addresses is a client IP address (fig. 8).

25. As to claim 19, Li discloses wherein at least one address in said plurality of IP

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addresses is a server IP address (col. 5, lines 3-42; i.e., router receives IP addresses from a server).

26. As to claim 20, Li does not specifically disclose codes for search algorithm. Tzeng discloses codes for search algorithm (figs. 4-9). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Li and Tzeng because Tzeng's code search algorithm would supports subnet mask look-up and best matching of IP addresses (Tzeng, col. 3, lines 7-15; col. 5, lines 30-39).

### ***Response to Arguments***

27. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

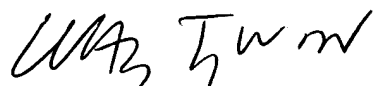
Chung et al, patent 6,470,389, Block et al, patent 6,192,417, Przygienda et al, patent 6,563,823, Marques et al, patent 6,643,706, Eatherton et al, patent 6,560,610, Krishnamurthy et al, patent 6,928,485, Murase et al, patent 6,570,866 disclose a method and system for clustering IP addresses using longest match based on radix search trie.

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29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jungwon Chang whose telephone number is 571-272-3960. The examiner can normally be reached on 9:30-6:00 (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jungwon Chang  
May 24 2006